Digital Information Literacy Skills for University Librarians in Pakistan: A Proposed Framework

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Abstract: This study aims to establish a comprehensive Digital Information Literacy (DIL) skills model tailored for librarians across diverse Pakistani universities. Employing content analysis, the research conducted a literature review to identify contextually relevant DIL skill statements. An expert panel evaluated a draft list of DIL skills, informing the development of a research questionnaire using a Likert scale. Chief librarians from various universities constituted the study population. Out of 160 distributed questionnaires, 132 were returned and analyzed using ANOVA. The study resulted in a DIL skill model comprising fifty-six validated and ranked skill statements, categorized into five groups: Use of Personal System (PC), Digital Tools Utilization, Ability in Digital Services, Skills in Technology Applications, and Digital Innovative Technologies. The study recommends integrating these DIL skill contents into the LIS curriculum and encourages librarians in university settings to adopt the model to enhance their proficiency in digital information literacy.

Key Words: Digital Information, Literacy Skills, University Librarian, Pakistan, Education

Introduction

University libraries are vital hubs for educational, learning, and research activities, serving as crucial resources for meeting users' information needs. However, the rapid advancement of modern technology has significantly altered the expectations placed on university librarians, highlighting the critical importance of digital literacy in navigating the ever-changing information landscape (Chang & Chen, 2011).

In Pakistan, university librarians face numerous challenges that hinder their ability to effectively fulfill their roles. These challenges include low adoption of Information Communication Technology (ICT), outdated curriculum in Library and Information Science (LIS) programs, inadequate facilities for skill acquisition, and limited professional development opportunities (Ameen, 2011).

This article aims to delve into the concept of Digital Information Literacy (DIL) skills among university librarians in Pakistan, focusing on three primary issues: the insufficient adoption of digital innovations, the diverse landscape of digital information formats, and the persistent reliance on traditional teaching methodologies in LIS education.

University librarians are expected to possess robust digital skills to support teaching, learning, and research endeavors (Latham, Gross, & Witte, 2013). However, the rapid pace of technological advancements necessitates continuous enhancement of digital literacy to meet the evolving needs of users (Jeffrey et al., 2011).

Digital information literacy encompasses a wide range of abilities, including effective utilization of digital tools, critical evaluation of information, and adept engagement with digital resources (Martin &

Grudziecki, 2006). This article adopts an integrated definition of DIL skills to encapsulate the cognitive and technical proficiencies required in a digital environment.

The significance of DIL skills extends beyond individual competence, contributing to societal development and professional success (Mansour, 2017). Within university libraries, DIL skills enable librarians to facilitate access to digital resources, support research endeavors, and foster information literacy among users (Khan et al., 2019).

Despite the imperative nature of DIL skills, university librarians in Pakistan encounter challenges in acquiring and enhancing these competencies. The current LIS curriculum lacks a structured framework for teaching DIL skills, resulting in a mismatch between the skills demanded by the job market and those imparted by educational institutions (Khan, 2020).

To address these challenges, this article proposes the development of a comprehensive framework for DIL skills tailored to the specific needs of university librarians in Pakistan. By delineating the essential DIL competencies and providing guidance for their acquisition, this framework aims to bridge the gap between theory and practice in LIS education and empower librarians to navigate the digital landscape effectively.

In summary, this article underscores the critical importance of enhancing DIL skills among university librarians in Pakistan and presents a roadmap for their professional development in the digital age.

The significance of this study lies in the pivotal role that Digital Information Literacy (DIL) skills play in research, teaching, and learning processes. Adequately meeting the information needs of researchers, teachers, and students hinges upon the effective utilization of digital innovations by university librarians. Therefore, the formulation of a DIL skills framework holds significant importance for the following reasons:

Informing University Librarians

The DIL skills framework serves to inform university librarians about the essential competencies required for effective performance in a digital environment. By delineating these skills, the framework empowers librarians to enhance their digital literacy and adapt to the evolving information landscape.

Informing University Authorities

This study provides valuable insights into the present status of DIL skills among librarians and university authorities. Armed with this information, authorities can take proactive measures to address skill gaps through targeted training programs and professional development initiatives, thus bridging the disparity between the supply and demand of DIL skills.

Setting Evaluation Standards

The results of this study can serve as evaluation standards for DIL skills, guiding university authorities, policymakers, educators, and information professionals in making informed decisions related to curriculum development, hiring practices, and resource allocation.

Facilitating Self-Assessment

The DIL skills framework enables university librarians to evaluate and understand their own competency levels in digital literacy. This self-assessment can lead to enhanced performance as librarians identify areas for improvement and take proactive steps to acquire necessary skills.

Supporting Teaching Faculty

Librarians equipped with DIL skills can play a crucial role in supporting teaching faculty by assisting in the integration of digital literacy components into curricula and equipping university graduates with the necessary skills to thrive in the digital age.

Informing Job Descriptions

The study findings can inform employers in crafting job descriptions for Pakistani librarians that align with market demands for DIL skills, thereby ensuring that hiring practices are reflective of the evolving needs of the profession.

Addressing Literature Gap

By exploring and validating various DIL skills in the context of Pakistani university librarianship, this study contributes to addressing the existing gap in the literature on DIL skills, particularly within the specific socio-cultural and educational context of Pakistan.

Overall, this study seeks to enhance the understanding of the innovative roles of university librarians in the digital era, particularly in developing countries like Pakistan, and to provide practical insights for enhancing DIL skills among librarians to meet the challenges and opportunities of the digital age.

Research Objectives

This study aimed to achieve the following two major research objectives:

1) Analysis of Digital Information Literacy (DIL) Skills Required for University Librarians in Pakistan: This objective involved a comprehensive examination of the digital information literacy skills essential for university librarians in the context of Pakistan's educational landscape. It encompassed identifying the specific competencies, knowledge areas, and proficiencies necessary for librarians to effectively navigate and utilize digital tools, resources, and platforms in their professional roles.

2) Development of a Digital Information Literacy (DIL) Skills Framework for University Librarians in Pakistan: This objective focused on the formulation of a structured framework outlining the DIL skills required by university librarians in Pakistan. The framework aimed to provide a systematic and organized approach to identifying, categorizing, and prioritizing the essential competencies and capabilities that librarians need to acquire and develop to enhance their digital literacy in alignment with the evolving demands of their profession.

These research objectives guided the study's exploration and analysis of digital information literacy skills within the specific context of university librarianship in Pakistan, ultimately leading to the development of a tailored framework designed to support librarians in their professional development journey in the digital age.

Literature Review

The literature review conducted for this study encompassed a wide range of sources to explore the concept of Digital Information Literacy (DIL) skills and competency frameworks relevant to university librarianship. Key findings from the literature review are summarized as follows:

Competency Models in Librarianship

Competency models have been pivotal in guiding librarians' professional development and enhancing service efficiency.

Various library associations worldwide, such as CARL, FLICC, ALA, MLA, and SLA, have formulated competency frameworks tailored to different library settings and professional roles.

Competency Development in Pakistan

Scholarly literature on competency development for librarians in Pakistan is limited.

Mahmood (2002, 2003, 2012) highlighted the need for contemporary skill sets aligned with industry requirements and advocated for curriculum revisions in LIS education.

Digital Information Literacy (DIL) Models and Frameworks

DIL models and frameworks play a crucial role in promoting information access and utilization through digital means.

National and regional initiatives worldwide aim to promote digital literacy and bridge the digital divide, but challenges exist in standardization and efficacy assessment.

Digital Literacy Frameworks

Various organizations and institutions have developed digital literacy frameworks tailored to different educational needs and contexts.

UNESCO Institute for Statistics has developed models for digital information literacy across academic, professional, and personal domains, emphasizing competencies like creative expression, problem-solving, critical evaluation, and ethical considerations.

Challenges and Considerations

Challenges persist in delineating the boundaries between information literacy, media literacy, and technological literacy within digital literacy frameworks.

Developing comprehensive competency frameworks to address diverse educational needs and contexts remains a challenge.

The literature review underscores the importance of competency frameworks in guiding librarians' professional development, particularly in the digital age. It highlights the need for tailored competency models for university librarians in Pakistan and emphasizes the multifaceted nature of digital literacy. The review also identifies challenges in developing comprehensive competency frameworks to address diverse educational needs and contexts.

This literature review provides a foundation for understanding the landscape of DIL skills and competency frameworks relevant to university librarianship, informing the formulation of a DIL skills model for university librarians in Pakistan.

Research Methodology

The research methodology for formulating the Digital Information Literacy (DIL) skills model for university librarians in Pakistan employed a quantitative approach, specifically utilizing a cross-sectional survey method. A self-administered questionnaire was developed through a literature review, resulting in a refined list of 56 pertinent DIL skills. Rigorous pretesting and pilot testing phases ensured content and face validity. The final

questionnaire, comprising demographic information and DIL skills items, was distributed to 141 university librarians selected through random sampling from 222 recognized universities across Pakistan. Data analysis involved SPSS software for descriptive and inferential statistics, with reliability analysis indicating high internal consistency. This systematic approach encompassed literature review, instrument development, data collection, and statistical analysis, facilitating the formulation of a tailored DIL skills model for university librarians in Pakistan.

Findings

The major findings of the study revolve around two main objectives: analyzing the Digital Information Literacy (DIL) skills required for university librarians in Pakistan and creating a framework based on these skills. To achieve the first objective, a thorough content analysis method was employed, involving an extensive literature review to identify relevant DIL skills and models. The critical appraisal of previous frameworks ensured the selection of current and pertinent skills while avoiding redundancy. Expert panels further evaluated and refined the draft list of DIL skills, resulting in a final list of 56 skills. This list was then validated by chief librarians through a 5-point Likert-type scale, with skills ranked based on mean values and tested for significance using statistical methods. The results indicated strong support for the acquisition of DIL skills among librarians, with the proposed framework comprising essential skills grouped into five categories: Use of Personal System (PC), Digital tools utilization, Ability to use digital services, Skills regarding technology applications, and Digital innovative technologies. The framework provides a comprehensive model for implementing DIL skills in university libraries in Pakistan, ensuring relevance and currency while eliminating redundancy. Overall, the study's findings underscore the importance of DIL skills for librarians and offer a practical framework for their development and implementation in the Pakistani context.

Discussion

The discussion section of the study provided a detailed analysis of survey response rates, demographic characteristics of respondents, and key findings based on the dimensions outlined in the data collection instrument. The study achieved an overall response rate of 80.6%, indicating substantial engagement from chief librarians. Despite initial challenges, follow-up methods such as telephone and email communication significantly improved response rates. Demographic analysis revealed insights into gender distribution, age groups, qualifications, experience, and types of universities represented. Findings were presented through detailed tables, analyzing Digital Information Literacy (DIL) skills related to personal computer usage among university librarians. Statistical tests such as t-tests and one-way ANOVA were conducted to assess significance across demographic factors. Results indicated variations in perceptions of DIL skills based on gender, age, and type of university. Overall, the discussion provided a comprehensive analysis of survey results, highlighting the importance of DIL skills among university librarians in Pakistan and the influence of demographic factors on their perceptions, thus contributing to the development of a tailored DIL framework for the profession.

Conclusion

Based on the study findings, several conclusions emerge regarding the significance of Digital Information Literacy (DIL) skills for university librarians in Pakistan. Firstly, it is crucial for librarians to acknowledge the importance of DIL skills for their professional advancement, enabling them to move beyond traditional practices in the digital age. Secondly, incorporating DIL skills into professional practices is essential to better serve library users in accessing and utilizing information resources. Thirdly, targeted training programs are

necessary to enhance DIL skills, particularly for librarians lacking proficiency in certain areas. Fourthly, the validation of the proposed DIL skills model by chief librarians highlights its relevance and underscores the need for librarians to acquire these skills. Lastly, acquiring DIL skills offers various benefits, including career development, enhancing professional image, and effectively managing information management challenges. Overall, the study emphasizes the importance of librarians acquiring and implementing DIL skills to adapt to the evolving information landscape and remain effective in their roles amidst technological advancements.

Future Research Areas

Future research in the field of Digital Information Literacy (DIL) skills offers several promising avenues for exploration and advancement. Drawing from the insights of this study, the following research directions are proposed:

Qualitative Approaches

Employing qualitative methodologies such as interviews, focus groups, or case studies can provide nuanced insights into the adoption and integration of DIL skills among university librarians in Pakistan. These methods offer a deeper understanding of how librarians perceive and incorporate DIL skills into their professional roles within the local context.

Understanding DIL Skills Availability

Further investigation is needed to uncover the reasons behind the limited availability of the DIL skills model in Pakistan. Qualitative research can elucidate the underlying factors contributing to the lack of recognition or adoption of DIL skills, providing valuable insights for future interventions.

Training Program Development

Future research could focus on designing and implementing tailored training programs aimed at enhancing the DIL skills of university librarians in Pakistan. These programs should address identified skill gaps and provide librarians with the necessary competencies in digital technologies and innovative library practices.

Validation of DIL Skill Statements

Utilizing qualitative and mixed-methods approaches, future studies can validate the DIL skill statements proposed in existing models for university librarians in Pakistan. This validation process can involve expert evaluations, in-depth interviews, or focus groups to assess the relevance, applicability, and comprehensiveness of the identified skill statements.

By addressing these research areas, future studies can contribute to a deeper understanding of the acquisition and utilization of DIL skills among university librarians in Pakistan. This, in turn, will support the development of targeted interventions and initiatives aimed at enhancing librarians' digital competencies and professional effectiveness in the evolving landscape of library and information science.

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